

IFWO

RAW SEQUENCE LISTING

DATE: 09/27/2004

PATENT APPLICATION: US/10/796,719

TIME: 11:32:11

Input Set : A:\14184-043001.txt

Output Set: N:\CRF4\09272004\J796719.raw

```
4 <110> APPLICANT: Currie, Mark G.
        Mahajan-Miklos, Shalina
 8 <120> TITLE OF INVENTION: METHODS AND COMPOSITIONS FOR THE
         TREATMENT OF GASTROINTESTINAL DISORDERS
12 <130> FILE REFERENCE: 14184-043001
14 <140> CURRENT APPLICATION NUMBER: US 10/796,719
15 <141> CURRENT FILING DATE: 2004-03-09
17 <150> PRIOR APPLICATION NUMBER: US 10/766,735
18 <151> PRIOR FILING DATE: 2004-01-28
20 <150> PRIOR APPLICATION NUMBER: US 60/443,098
21 <151> PRIOR FILING DATE: 2003-01-28
23 <150> PRIOR APPLICATION NUMBER: US 60/471,288
24 <151> PRIOR FILING DATE: 2003-05-15
26 <150> PRIOR APPLICATION NUMBER: US 60/519,460
27 <151> PRIOR FILING DATE: 2003-11-12
29 <160> NUMBER OF SEQ ID NOS: 149
31 <170> SOFTWARE: FastSEQ for Windows Version 4.0
33 <210> SEQ ID NO: 1
34 <211> LENGTH: 19
35 <212> TYPE: PRT
36 <213> ORGANISM: Escherichia coli
38 <400> SEQUENCE: 1
39 Asn Ser Ser Asn Tyr Cys Cys Glu Leu Cys Cys Asn Pro Ala Cys Thr
40 1
41 Gly Cys Tyr
44 <210> SEQ ID NO: 2
45 <211> LENGTH: 18
46 <212> TYPE: PRT
47 <213> ORGANISM: Escherichia coli
49 <400> SEQUENCE: 2
50 Asn Thr Phe Tyr Cys Cys Glu Leu Cys Cys Asn Pro Ala Cys Ala Gly
51 1
52 Cys Tyr
55 <210> SEQ ID NO: 3
56 <211> LENGTH: 18
57 <212> TYPE: PRT
58 <213> ORGANISM: Escherichia coli
60 <400> SEQUENCE: 3
61 Asn Thr Phe Tyr Cys Cys Glu Leu Cys Cys Tyr Pro Ala Cys Ala Gly
62 1
                    5
                                       10
63 Cys Asn
66 <210> SEQ ID NO: 4
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67 <211> LENGTH: 18

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Input Set : A:\14184-043001.txt

```
68 <212> TYPE: PRT
69 <213> ORGANISM: Citrobacter freundii
71 <400> SEQUENCE: 4
72 Asn Thr Phe Tyr Cys Cys Glu Leu Cys Cys Asn Pro Ala Cys Ala Gly
73 1
                  5
                          10
74 Cys Tyr
77 <210> SEQ ID NO: 5
78 <211> LENGTH: 30
79 <212> TYPE: PRT
80 <213> ORGANISM: Yersinia enterocolitica
82 <400> SEQUENCE: 5
83 Gln Ala Cys Asp Pro Pro Ser Pro Pro Ala Glu Val Ser Ser Asp Trp
                  5
                                     10
85 Asp Cys Cys Asp Val Cys Cys Asn Pro Ala Cys Ala Gly Cys
              20
                                  2.5
88 <210> SEQ ID NO: 6
89 <211> LENGTH: 30
90 <212> TYPE: PRT
91 <213> ORGANISM: Yersinia enterocolitica
93 <400> SEQUENCE: 6
94 Lys Ala Cys Asp Thr Gln Thr Pro Ser Pro Ser Glu Glu Asn Asp Asp
                                     10
96 Trp Cys Cys Glu Val Cys Cys Asn Pro Ala Cys Ala Gly Cys
   20
                                  25
99 <210> SEQ ID NO: 7
100 <211> LENGTH: 53
101 <212> TYPE: PRT
102 <213> ORGANISM: Yersinia enterocolitica
104 <400> SEQUENCE: 7
105 Gln Glu Thr Ala Ser Gly Gln Val Gly Asp Val Ser Ser Ser Thr Ile
106 1 5
107 Ala Thr Glu Val Ser Glu Ala Glu Cys Gly Thr Gln Ser Ala Thr Thr
108 20
                                   25
109 Gln Gly Glu Asn Asp Trp Asp Trp Cys Cys Glu Leu Cys Cys Asn Pro
110
           35
111 Ala Cys Phe Gly Cys
112
      50
114 <210> SEQ ID NO: 8
115 <211> LENGTH: 16
116 <212> TYPE: PRT
117 <213> ORGANISM: Yersinia kristensenii
119 <400> SEQUENCE: 8
120 Ser Asp Trp Cys Cys Glu Val Cys Cys Asn Pro Ala Cys Ala Gly Cys
                                     10
121 1
123 <210> SEQ ID NO: 9
124 <211> LENGTH: 17
125 <212> TYPE: PRT
126 <213> ORGANISM: Vibrio cholerae
128 <400> SEQUENCE: 9
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Input Set : A:\14184-043001.txt

```
129 Ile Asp Cys Cys Glu Ile Cys Cys Asn Pro Ala Cys Phe Gly Cys Leu
130 1
                                        10
131 Asn
134 <210> SEQ ID NO: 10
135 <211> LENGTH: 17
136 <212> TYPE: PRT
137 <213> ORGANISM: Vibrio mimicus
139 <400> SEQUENCE: 10
140 Ile Asp Cys Cys Glu Ile Cys Cys Asn Pro Ala Cys Phe Gly Cys Leu
141 1
142 Asn
145 <210> SEQ ID NO: 11
146 <211> LENGTH: 18
147 <212> TYPE: PRT
148 <213> ORGANISM: Escherichia coli
150 <400> SEQUENCE: 11
151 Asn Thr Phe Tyr Cys Cys Glu Leu Cys Cys Asn Pro Ala Cys Ala Pro
152 1
                    5
                                       10
153 Cys Tyr
156 <210> SEQ ID NO: 12
157 <211> LENGTH: 13
158 <212> TYPE: PRT
159 <213> ORGANISM: Vibrio cholerae
161 <400> SEQUENCE: 12
162 Ile Asp Cys Cys Glu Ile Cys Cys Asn Pro Ala Cys Phe
163 1
                    5
165 <210> SEQ ID NO: 13
166 <211> LENGTH: 14
167 <212> TYPE: PRT
168 <213> ORGANISM: Vibrio cholerae
170 <400> SEQUENCE: 13
171 Ile Asp Cys Cys Glu Ile Cys Cys Asn Pro Ala Cys Phe Gly
172 1
174 <210> SEQ ID NO: 14
175 <211> LENGTH: 17
176 <212> TYPE: PRT
177 <213> ORGANISM: Vibrio mimicus
179 <400> SEQUENCE: 14
180 Ile Asp Cys Cys Glu Ile Cys Cys Asn Pro Ala Cys Phe Gly Cys Leu
181 1
                                        10
182 Asn
185 <210> SEQ ID NO: 15
186 <211> LENGTH: 17
187 <212> TYPE: PRT
188 <213> ORGANISM: Vibrio mimicus
190 <400> SEQUENCE: 15
191 Ile Asp Arg Cys Glu Ile Cys Cys Asn Pro Ala Cys Phe Gly Cys Leu
192 1
                                        10
                                                             15
193 Asn
```

RAW SEQUENCE LISTING

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Input Set : A:\14184-043001.txt

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196 <210> SEQ ID NO: 16 197 <211> LENGTH: 16 198 <212> TYPE: PRT 199 <213> ORGANĮSM: Yersinia enterocolitica 201 <400> SEQUENCE: 16 202 Asp Trp Asp Cys Cys Asp Val Cys Cys Asn Pro Ala Cys Ala Gly Cys 203 1 205 <210> SEQ ID NO: 17 206 <211> LENGTH: 16 207 <212> TYPE: PRT 208 <213> ORGANISM: Yersinia enterocolitica 210 <400> SEQUENCE: 17 211 Asp Trp Asp Cys Cys Asp Val Cys Cys Asn Pro Ala Cys Ala Gly Cys 214 <210> SEQ ID NO: 18 215 <211> LENGTH: 17 216 <212> TYPE: PRT 217 <213> ORGANISM: Yersinia enterocolitica 219 <400> SEOUENCE: 18 220 Asn Asp Asp Trp Cys Cys Glu Val Cys Cys Asn Pro Ala Cys Ala Gly 221 1 10 222 Cys 225 <210> SEO ID NO: 19 226 <211> LENGTH: 16 227 <212> TYPE: PRT 228 <213> ORGANISM: Yersinia enterocolitica 230 <400> SEQUENCE: 19 231 Trp Asp Trp Cys Cys Glu Leu Cys Cys Asn Pro Ala Cys Phe Gly Cys 232 1 1.0 234 <210> SEQ ID NO: 20 235 <211> LENGTH: 72 236 <212> TYPE: PRT 237 <213> ORGANISM: Escherichia coli 239 <400> SEQUENCE: 20 240 Met Lys Lys Leu Met Leu Ala Ile Phe Ile Ser Val Leu Ser Phe Pro 241 1 5 10 242 Ser Phe Ser Gln Ser Thr Glu Ser Leu Asp Ser Ser Lys Glu Lys Ile 20 25 244 Thr Leu Glu Thr Lys Lys Cys Asp Val Val Lys Asn Asn Ser Glu Lys 40 246 Lys Ser Glu Asn Met Asn Asn Thr Phe Tyr Cys Cys Glu Leu Cys Cys 50 60 248 Asn Pro Ala Cys Ala Gly Cys Tyr 249 65 251 <210> SEQ ID NO: 21 252 <211> LENGTH: 72 253 <212> TYPE: PRT 254 <213> ORGANISM: Escherichia coli

256 <400> SEQUENCE: 21

RAW SEQUENCE LISTINGPATENT APPLICATION: **US/10/796,719**DATE: 09/27/2004 TIME: 11:32:12

Input Set : A:\14184-043001.txt

```
257 Met Lys Lys Ser Ile Leu Phe Ile Phe Leu Ser Val Leu Ser Phe Ser
259 Pro Phe Ala Gln Asp Ala Lys Pro Val Glu Ser Ser Lys Glu Lys Ile
260
                20
                                    25
261 Thr Leu Glu Ser Lys Lys Cys Asn Ile Ala Lys Lys Ser Asn Lys Ser
                                40
263 Gly Pro Glu Ser Met Asn Ser Ser Asn Tyr Cys Cys Glu Leu Cys Cys
        50
265 Asn Pro Ala Cys Thr Gly Cys Tyr
266 65
268 <210> SEQ ID NO: 22
269 <211> LENGTH: 71
270 <212> TYPE: PRT
271 <213> ORGANISM: Yersinia enterocolitica
273 <400> SEQUENCE: 22
274 Met Lys Lys Ile Val Phe Val Leu Val Leu Met Leu Ser Ser Phe Gly
275 1
276 Ala Phe Gly Gln Glu Thr Val Ser Gly Gln Phe Ser Asp Ala Leu Ser
277
278 Thr Pro Ile Thr Ala Glu Val Tyr Lys Gln Ala Cys Asp Pro Pro Leu
279
            35
                                40
280 Pro Pro Ala Glu Val Ser Ser Asp Trp Asp Cys Cys Asp Val Cys Cys
282 Asn Pro Ala Cys Ala Gly Cys
283 65
285 <210> SEQ ID NO: 23
286 <211> LENGTH: 54
287 <212> TYPE: PRT
288 <213> ORGANISM: Artificial Sequence
290 <220> FEATURE:
291 <223> OTHER INFORMATION: Synthetically generated amino terminal leader
          sequence
294 <400> SEQUENCE: 23
295 Met Lys Lys Ser Ile Leu Phe Ile Phe Leu Ser Val Leu Ser Phe Ser
296 1
297 Pro Phe Ala Gln Asp Ala Lys Pro Val Glu Ser Ser Lys Glu Lys Ile
298
                20
                                    25
299 Thr Leu Glu Ser Lys Lys Cys Asn Ile Ala Lys Lys Ser Asn Lys Ser
301 Gly Pro Glu Ser Met Asn
       50
302
304 <210> SEQ ID NO: 24
305 <211> LENGTH: 53
306 <212> TYPE: PRT
307 <213> ORGANISM: Artificial Sequence
309 <220> FEATURE:
310 <223> OTHER INFORMATION: Synthetically generated peptide
312 <400> SEQUENCE: 24
313 Met Lys Lys Ser Ile Leu Phe Ile Phe Leu Ser Val Leu Ser Phe Ser
```

RAW SEQUENCE LISTING ERROR SUMMARY

PATENT APPLICATION: US/10/796,719

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Please Note:

Use of n and/or Xaa have been detected in the Sequence Listing. Please review the Sequence Listing to ensure that a corresponding explanation is presented in the <220> to <223> fields of each sequence which presents at least one n or Xaa.

Seq#:66; Xaa Pos. 1,2,3,4,5,9,20,21 Seq#:119; Xaa Pos. 1,2,3,4,5,8,9,12,13,14,16,17,19,20,21 Seq#:120; Xaa Pos. 1,2,3,4,5,8,9,16,19,20,21 Seq#:144; Xaa Pos. 1,2,3,4,5,8,9,12,13,14,16,17,19,20,21 Seq#:145; Xaa Pos. 1,2,3,4,5,8,9,12,13,14,16,17,19,20,21 Seq#:146; Xaa Pos. 1,2,3,4,5,8,9,12,13,14,16,17,19,20,21 Seq#:147; Xaa Pos. 1,2,3,4,5,8,9,12,13,14,16,17,19,20,21

VERIFICATION SUMMARY

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Input Set : A:\14184-043001.txt

```
L:857 M:281 W: Numeric Fields not Ordered, <221> Sort in ascending order!
L:864 M:258 W: Mandatory Feature missing, <220> Tag not found for SEQ ID#:66
L:871 M:258 W: Mandatory Feature missing, <220> Tag not found for SEQ ID#:66
L:877 M:258 W: Mandatory Feature missing, <220> Tag not found for SEQ ID#:66
L:881 M:258 W: Mandatory Feature missing, <220> Tag not found for SEQ ID#:66
L:882 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:66 after pos.:0
L:884 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:66 after pos.:16
L:1571 M:281 W: Numeric Fields not Ordered, <221> Sort in ascending order!
L:1575 M:258 W: Mandatory Feature missing, <220> Tag not found for SEQ ID#:119
L:1580 M:258 W: Mandatory Feature missing, <220> Tag not found for SEQ ID#:119
L:1584 M:258 W: Mandatory Feature missing, <220> Tag not found for SEQ ID#:119
L:1585 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:119 after pos.:0
L:1587 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:119 after pos.:16
L:1598 M:281 W: Numeric Fields not Ordered, <221> Sort in ascending order!
L:1604 M:258 W: Mandatory Feature missing, <220> Tag not found for SEQ ID#:120
L:1608 M:258 W: Mandatory Feature missing, <220> Tag not found for SEQ ID#:120
L:1612 M:258 W: Mandatory Feature missing, <220> Tag not found for SEQ ID#:120
L:1616 M:258 W: Mandatory Feature missing, <220> Tag not found for SEQ ID#:120
L:1620 M:258 W: Mandatory Feature missing, <220> Tag not found for SEQ ID#:120
L:1624 M:258 W: Mandatory Feature missing, <220> Tag not found for SEQ ID#:120
L:1625 \ M:341 \ W: (46) "n" or "Xaa" used, for SEQ ID#:120 after pos.:0
L:1627 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:120 after pos.:16
L:1914 M:281 W: Numeric Fields not Ordered, <221> Sort in ascending order!
L:1918 M:258 W: Mandatory Feature missing, <220> Tag not found for SEQ ID#:144
L:1922 M:258 W: Mandatory Feature missing, <220> Tag not found for SEQ ID#:144
L:1926 M:258 W: Mandatory Feature missing, <220> Tag not found for SEQ ID#:144
L:1930 M:258 W: Mandatory Feature missing, <220> Tag not found for SEQ ID#:144
L:1934 M:258 W: Mandatory Feature missing, <220> Tag not found for SEQ ID#:144
L:1938 M:258 W: Mandatory Feature missing, <220> Tag not found for SEQ ID#:144
L:1942 M:258 W: Mandatory Feature missing, <220> Tag not found for SEQ ID#:144
L:1946 M:258 W: Mandatory Feature missing, <220> Tag not found for SEQ ID#:144
L:1950 M:258 W: Mandatory Feature missing, <220> Tag not found for SEQ ID#:144
L:1954 M:258 W: Mandatory Feature missing, <220> Tag not found for SEQ ID#:144
L:1955 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:144 after pos.:0
L:1957 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:144 after pos.:16
L:1967 M:281 W: Numeric Fields not Ordered, <221> Sort in ascending order!
L:1972 M:258 W: Mandatory Feature missing, <220> Tag not found for SEQ ID#:145
L:1976 M:258 W: Mandatory Feature missing, <220> Tag not found for SEQ ID#:145
L:1980 M:258 W: Mandatory Feature missing, <220> Tag not found for SEQ ID#:145
L:1984 M:258 W: Mandatory Feature missing, <220> Tag not found for SEQ ID#:145
L:1989 M:258 W: Mandatory Feature missing, <220> Tag not found for SEQ ID#:145
L:1993 M:258 W: Mandatory Feature missing, <220> Tag not found for SEQ ID#:145
L:1997 M:258 W: Mandatory Feature missing, <220> Tag not found for SEQ ID#:145
L:2002 M:258 W: Mandatory Feature missing, <220> Tag not found for SEQ ID#:145
L:2006 M:258 W: Mandatory Feature missing, <220> Tag not found for SEQ ID#:145
L:2010 M:258 W: Mandatory Feature missing, <220> Tag not found for SEQ ID#:145
L:2014 M:258 W: Mandatory Feature missing, <220> Tag not found for SEO ID#:145
L:2020 M:258 W: Mandatory Feature missing, <220> Tag not found for SEQ ID#:145
```

VERIFICATION SUMMARY

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L:2021 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:145 after pos.:0

```
L:2023 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:145 after pos.:16
L:2034 M:281 W: Numeric Fields not Ordered, <221> Sort in ascending order!
L:2038 M:258 W: Mandatory Feature missing, <220> Tag not found for SEQ ID#:146
L:2042 M:258 W: Mandatory Feature missing, <220> Tag not found for SEQ ID#:146
L:2046 M:258 W: Mandatory Feature missing, <220> Tag not found for SEQ ID#:146
L:2050 M:258 W: Mandatory Feature missing, <220> Tag not found for SEQ ID#:146
L:2054 M:258 W: Mandatory Feature missing, <220> Tag not found for SEQ ID#:146
L:2058 M:258 W: Mandatory Feature missing, <220> Tag not found for SEQ ID#:146
L:2064 M:258 W: Mandatory Feature missing, <220> Tag not found for SEQ ID#:146
L:2068 M:258 W: Mandatory Feature missing, <220> Tag not found for SEQ ID#:146
L:2072\ M:258\ W: Mandatory Feature missing, <220> Tag not found for SEQ ID#:146
L:2076 M:258 W: Mandatory Feature missing, <220> Tag not found for SEO ID#:146
L:2077 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:146 after pos.:0
L:2079 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:146 after pos.:16
L:2090 M:281 W: Numeric Fields not Ordered, <221> Sort in ascending order!
L:2096 M:258 W: Mandatory Feature missing, <220> Tag not found for SEO ID#:147
L:2100 M:258 W: Mandatory Feature missing, <220> Tag not found for SEQ ID#:147
L:2105 M:258 W: Mandatory Feature missing, <220> Tag not found for SEQ ID#:147
L:2109\ M:258\ W: Mandatory Feature missing, <220> Tag not found for SEQ ID#:147
L:2113 M:258 W: Mandatory Feature missing, <220> Tag not found for SEQ ID#:147
L:2118 M:258 W: Mandatory Feature missing, <220> Tag not found for SEO ID#:147
L:2122 M:258 W: Mandatory Feature missing, <220> Tag not found for SEQ ID#:147
L:2126 M:258 W: Mandatory Feature missing, <220> Tag not found for SEQ ID#:147
L:2130 M:258 W: Mandatory Feature missing, <220> Tag not found for SEQ ID#:147
L:2135 M:258 W: Mandatory Feature missing, <220> Tag not found for SEQ ID#:147
L:2139 M:258 W: Mandatory Feature missing, <220> Tag not found for SEQ ID#:147
L:2140 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:147 after pos.:0
L:2142 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:147 after pos.:16
L:2153 M:281 W: Numeric Fields not Ordered, <221> Sort in ascending order!
L:2157 M:258 W: Mandatory Feature missing, <220> Tag not found for SEQ ID#:148
L:2161 M:258 W: Mandatory Feature missing, <220> Tag not found for SEQ ID#:148
L:2165 M:258 W: Mandatory Feature missing, <220> Tag not found for SEQ ID#:148
L:2169 M:258 W: Mandatory Feature missing, <220> Tag not found for SEQ ID#:148
L:2173 M:258 W: Mandatory Feature missing, <220> Tag not found for SEQ ID#:148
L:2177 M:258 W: Mandatory Feature missing, <220> Tag not found for SEQ ID#:148
L:2181 M:258 W: Mandatory Feature missing, <220> Tag not found for SEQ ID#:148
L:2185 M:258 W: Mandatory Feature missing, <220> Tag not found for SEQ ID#:148
L:2189 M:258 W: Mandatory Feature missing, <220> Tag not found for SEQ ID#:148
L:2193 M:258 W: Mandatory Feature missing, <220> Tag not found for SEQ ID#:148
L:2194 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:148 after pos.:0
L:2196 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:148 after pos.:16
L:2207 M:281 W: Numeric Fields not Ordered, <221> Sort in ascending order!
L:2211 M:258 W: Mandatory Feature missing, <220> Tag not found for SEQ ID#:149
L:2215 M:258 W: Mandatory Feature missing, <220> Tag not found for SEQ ID#:149
L:2219 M:258 W: Mandatory Feature missing, <220> Tag not found for SEQ ID#:149
L:2223 M:258 W: Mandatory Feature missing, <220> Tag not found for SEQ ID#:149
L:2227 M:258 W: Mandatory Feature missing, <220> Tag not found for SEQ ID#:149
L:2231 M:258 W: Mandatory Feature missing, <220> Tag not found for SEQ ID#:149
```

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L:2232 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:149 after pos.:0 L:2234 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:149 after pos.:16